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**Weeber**

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(54) **MULTI-RING LENS, SYSTEMS AND METHODS FOR EXTENDED DEPTH OF FOCUS**

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(51) **Int. Cl.**  
**G02C 7/06** (2006.01)  
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(57) **ABSTRACT**

Systems and methods for providing enhanced image quality across a wide and extended range of foci encompass vision treatment techniques and ophthalmic lenses such as contact lenses and intraocular lenses (IOLs). Exemplary IOL optics can include an aspheric refractive profile imposed on a first or second lens surface, and a diffractive profile imposed on a first or second lens surface. The aspheric refractive profile can focus light toward a far focus. The diffractive profile can include a central zone that distributes a first percentage of light toward a far focus and a second percentage of light toward an intermediate focus. The diffractive profile can also include a peripheral zone, surrounding the central zone, which distributes a third percentage of light toward the far focus and a fourth percentage of light toward the intermediate focus.

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**A61F 2/1618** (2013.01); **A61F 2/1637**  
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See application file for complete search history.

**62 Claims, 25 Drawing Sheets**

